

desfa

H₂δ



February 2023



DESFA counts 17 years of successful operation

- ✓ Established in March 2007, DESFA owns & operates the Greek Natural Gas System (NNGS), which consists of the National Natural Gas Transmission System & the LNG Terminal in the islet of Revithoussa.
- ✓ DESFA has been certified as an Ownership Unbundled Operator under the 3rd EU Energy Package, following the change in its shareholding structure.
- ✓ DESFA operates, maintains & develops the Greek Natural Gas System in a safe, reliable, and economically efficient way, offering:

Regulated Third Party Access services in a transparent and non-discriminatory way

A range of non-regulated services to a number of national & international clients

Shareholders Structure



2007

Establishment of DESFA

2014

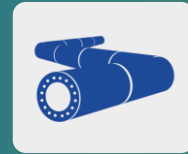
Certification of DESFA as an Independent Transmission Operator under the 3rd EU Energy Package

2018

Change in the shareholding structure and certification as Ownership Unbundled Operator



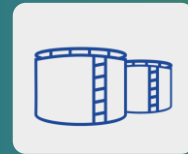
DESFA'S network at a glance



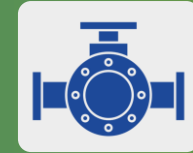
1,466 km
High Pressure
Pipelines



7
Operation &
Maintenance Centers



1
LNG Storage &
Regasification Terminal
Stations in Revithoussa



22
Exit Points to
Distribution Systems



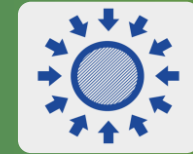
4
Interconnection
Points



2
Dispatch
Centers



53
Metering & Regulating
Stations



1
Compression
Station

THE REALIZATION OF THE "VERTICAL CORRIDOR" WILL ENABLE BI-DIRECTIONAL FLOWS OF NATURAL GAS BETWEEN GREECE, BULGARIA, ROMANIA AND HUNGARY



Cooperation in the Gas sector "The Vertical Corridor"

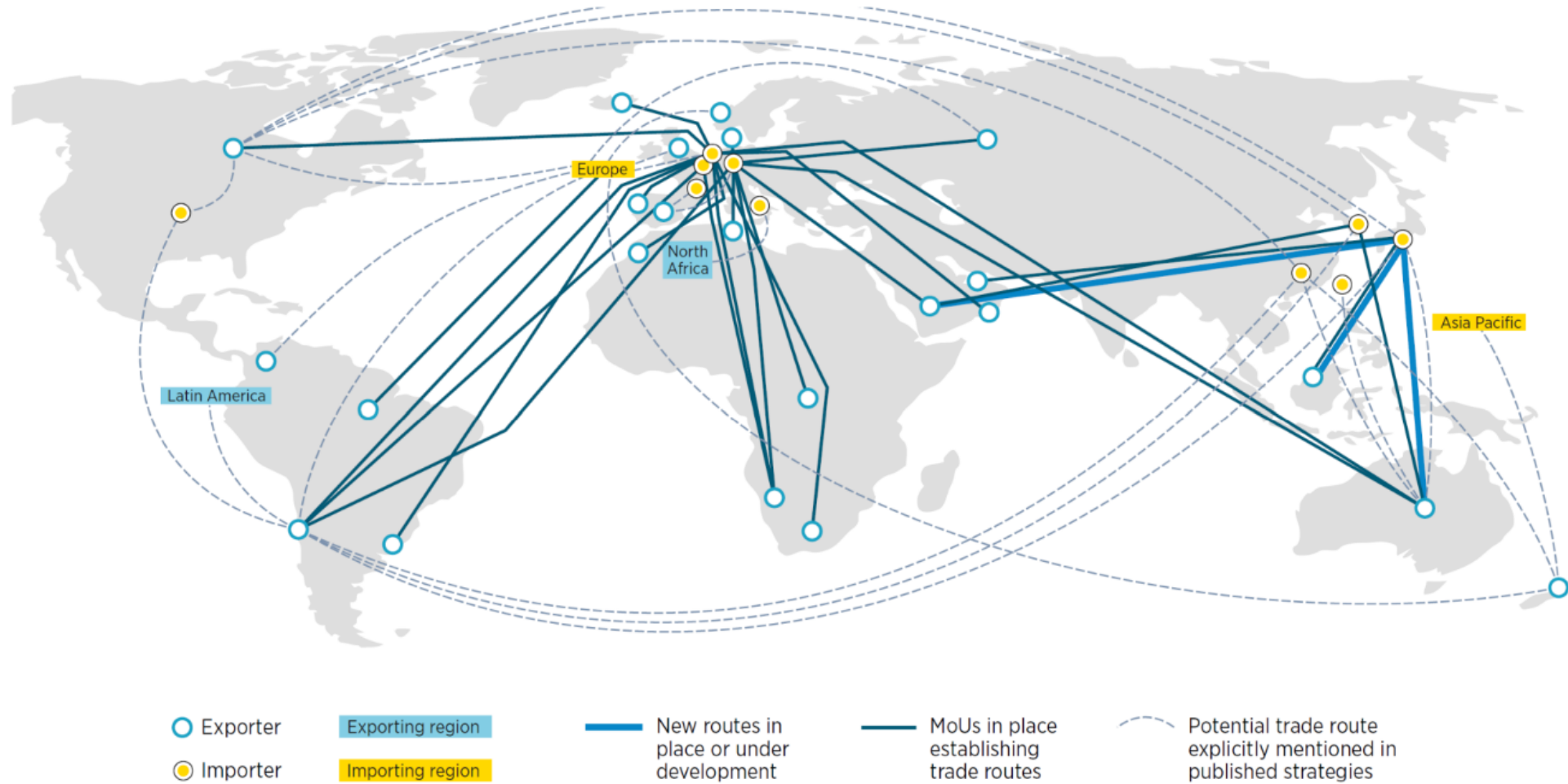


An **MoU** between gas systems operators from **Bulgaria, Greece, Romania, and Hungary** has already been signed for the development of the "**Vertical Corridor**"

The purpose is to cooperate for the realization of the Vertical Corridor, which will enable **bi-directional flows of natural gas from North to South and from South to North.**

The cooperation framework foresees that the companies **will explore the technical specifications of new connections and pipelines considering the EU's energy strategies and policies**, as well as the relevant developments in the regional gas market.

The ramp up of the global hydrogen market creates new challenges to existing supply chains, but also presents new opportunities for cooperation...

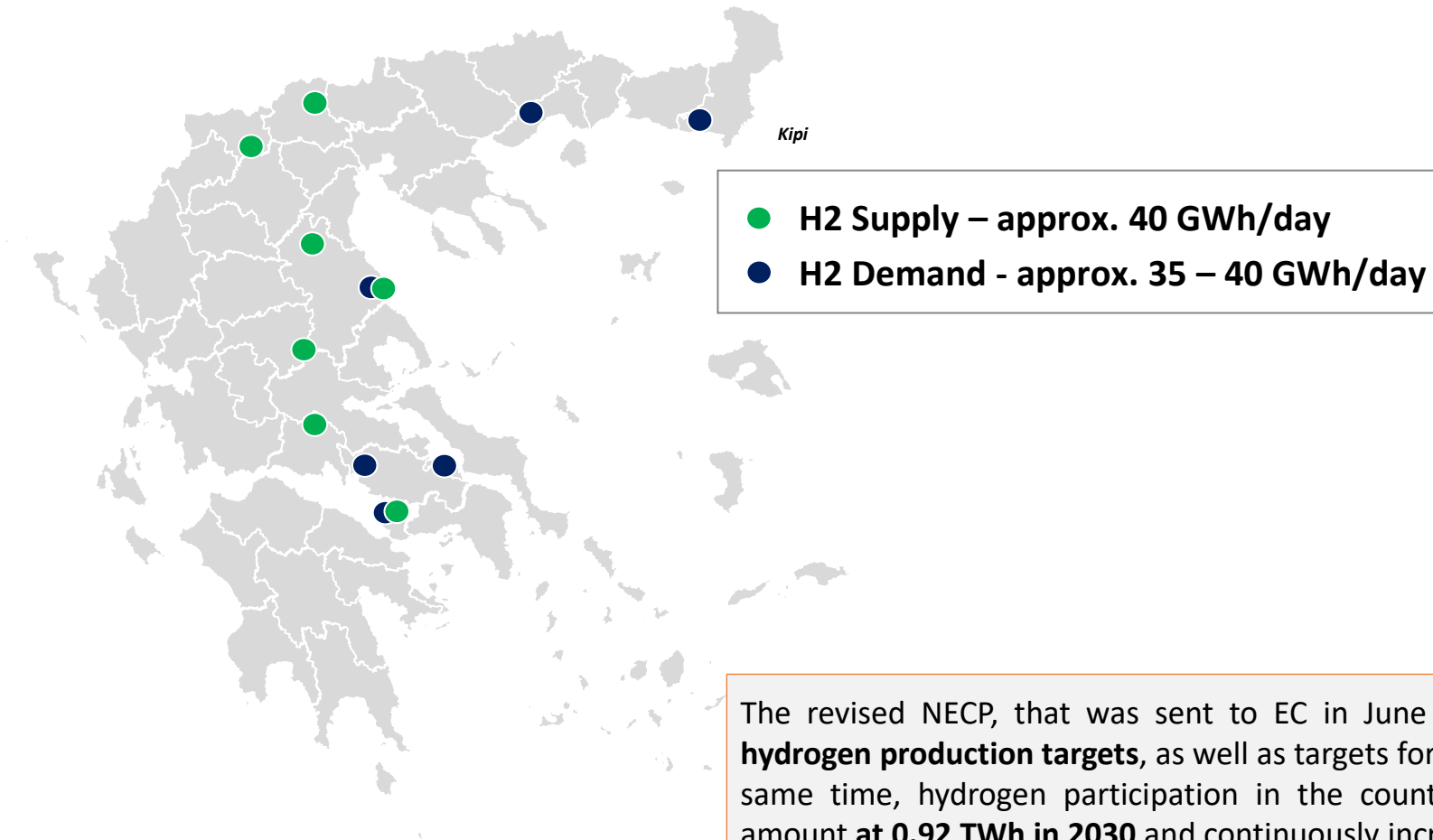


Source: IRENA

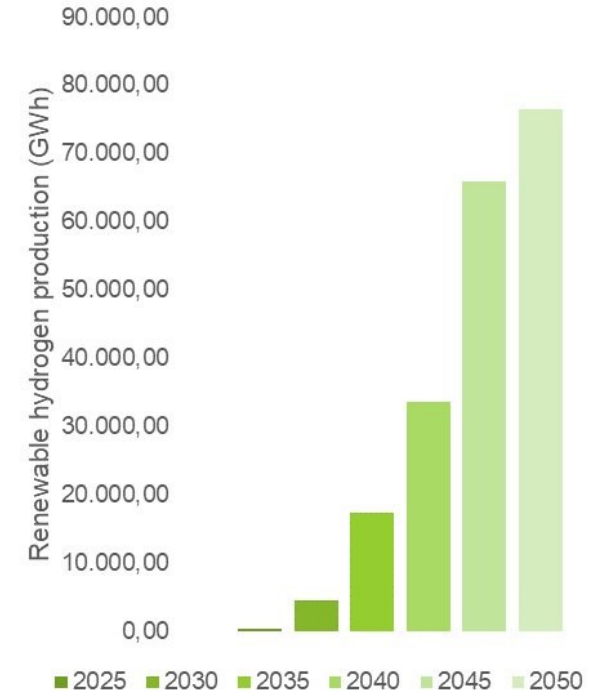
Greece has a strong focus towards energy transition, with various producers and end-users of hydrogen actively promoting their hydrogen strategy



H₂ Supply & Demand between 2030 - 2035



NECP H₂ Data



The revised NECP, that was sent to EC in June 2023 for approval, includes **for the first time hydrogen production targets**, as well as targets for the installed capacity of the electrolyzers. At the same time, hydrogen participation in the country’s final energy consumption is stipulated to amount **at 0.92 TWh in 2030** and continuously increase up to 63.6 TWh in 2050 (targets are subject to finalization). Provided that the aforementioned supply and demand analysis will materialize, **Greece could become a net exporter of hydrogen.**

DESFA has a strong vision for an extensive and robust hydrogen network in Greece



Fully operational H₂ network

H₂ activities of DESFA

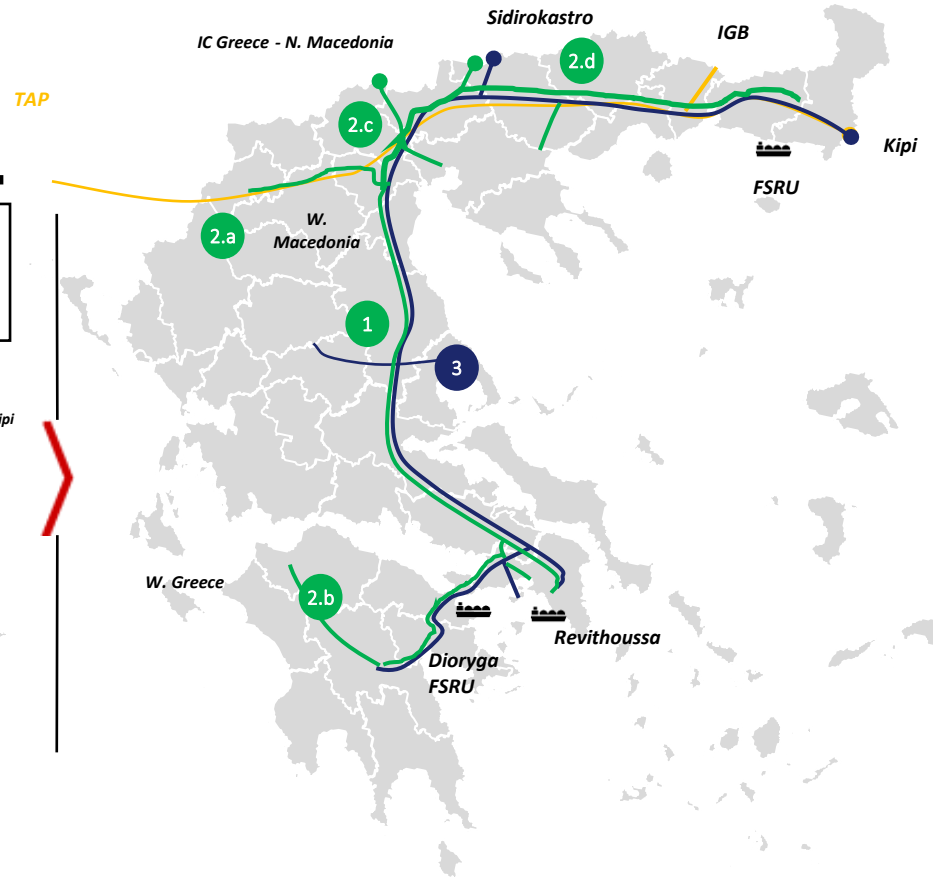
Development of H₂ Network in Greece

Blending and H₂ valleys

Depending on evolution of demand and supply, the valleys could be connected via blending/de-blending solutions

Dual system parallel

The Dedicated H₂ Pipeline will be Greece's H₂ backbone being the starting point of the EHB and the South-East Europe H₂ Corridor



DESFA plans to construct a new **540km long pipeline** exclusively for the **transport of pure H₂** of a total budget ~€1bn, that will **start from Southern part of Greece** and will reach **interconnection point with Bulgaria** allowing not only the connection of demand and supply center in Greece but also **export of excess H₂ produced in Greece**.

The project was recently included in the announced **6th PCI list by the European Commission**, which makes it eligible for grants via CEF funding program. The project will connect to **Bulgartransgaz's dedicated H₂ pipeline**, which also qualified and is included in the same list.

All new gas pipeline branches will be **hydrogen-ready and compatible to connect** with the above-mentioned **H₂ backbone**:

- Western Macedonia
- Patra
- Karperi – Komotini
- Interconnection pipeline with North Macedonia

— H₂ Blend pipeline — H₂ dedicated pipeline — Independent system

- 1 Dedicated H₂ pipeline (PCI project)
- 2 (a) W. Macedonia HPP, (b) Patra HPP, (c) ICGNM and (d) Karperi-Komotini branch as **100% H₂ repurposed transmission pipelines connected to the Dedicated H₂ pipeline**
- 3 Existing pipeline of NG with blending



DESFA has a strong presence in the H₂ sector at National & European level



DESFA **participates in all EU-initiatives and groups related to H₂ transportation** and is in close cooperation with the TSOs from Bulgaria, Romania, Hungary, Slovakia, Czech Republic and Germany for **the development of a South-Eastern European H₂ corridor**, in line with the **EU Hydrogen Backbone initiative**.

DESFA has been invited to participate to the establishment of the **European Organization of H₂ Operators ENNOH**.

Due to its extensive expertise to construct, operate and maintain a system for the transportation of gaseous products, DESFA is already in cooperation with **all potential Greek H₂ producers and consumers** for the **promotion of a robust H₂ market**, which will enable the efficient and delay-free development of hydrogen projects.

Following the request of the Regulator, **DESFA is expanding its approach to the Greek TYDP to include H₂ and renewable gases**; as a first step, DESFA has a structured proposal **for the development of the H₂ transmission network** in Greece and the SEE region.

DESFA's European and international partnerships, combined with its strategy for the rapid development of the H₂ market in Greece, can give **comparative advantages to hydrogen producers and consumers** and **establish Greece as a gateway for H₂ to SE Europe** in the EU.